

Claims

- [c1] 1. A method for decreasing a number of particles during an etching process of a material layer in which a wafer is put on a susceptor in an etching chamber, comprising:
setting a height of the susceptor and performing an etching process at such a height;
measuring deviations of etching depth at different locations under such a height;
repeating the above two steps with respect to various heights so as to obtain several sets of corresponding data for different heights; and
selecting the height resulting in a minimum deviation of etching depth as a height to perform a normal etching process.
- [c2] 2. The method of claim 1, wherein the height of the wafer is adjusted with a shaft under the susceptor, the shaft being capable of moving up and down to drive the susceptor vertically.
- [c3] 3. The method of claim 1, wherein the material layer comprises silicon oxide.
- [c4] 4. The method of claim 1, wherein the material layer is a dielectric layer, the etching chamber is a part of a metal deposition machine, and the etching process is for rounding a corner of an opening in the dielectric layer.
- [c5] 5. An etching process for etching a material layer on a substrate, comprising:
loading the substrate on a susceptor in an etching chamber used for the etching process; and
performing the etching process with a height of the susceptor in the etching chamber being adjusted to an optimum height that results in a minimum deviation of etching depth of the material layer in the etching process.
- [c6] 6. The etching process of claim 5, wherein the height of the substrate is adjusted with a shaft under the susceptor, the shaft being capable of moving up and down to drive the susceptor vertically.
- [c7] 7. The etching process of claim 5, wherein the material layer comprises a silicon oxide layer.

- [c8] 8. A method for rounding a corner of an opening in a dielectric layer on a substrate, comprising:
loading the substrate on a susceptor in an etching chamber; and
performing a corner-rounding etching process to round the corner of the opening in the dielectric layer with a height of the substrate in the etching chamber being adjusted to an optimum height that results in a minimum deviation of etching depth of the dielectric layer in the corner-rounding etching process.
- [c9] 9. The method of claim 8, wherein the height of the substrate is adjusted with a shaft under the susceptor, the shaft being capable of moving up and down to drive the susceptor vertically.
- [c10] 10. The method of claim 8, wherein the dielectric layer comprises silicon oxide.